



Chief Editor: Elsie Davis

November - December, 2016



RD's Corner

Happy Fall Y'all!

In the August edition of E-Grits, I shared with you a brief

report on the outstanding project leader's training meeting that took place in Chattanooga, TN from July 25-29. This month, I'd like to give you [a deeper look into that meeting](#), the first gathering in nine years of the Southeast Region's roughly 200 leaders from the Regional Office and the field.

In a report linked to this column, I am providing you an inside look at why we came together, what we accomplished, and what it means for our Region and each of us going forward.

The meeting was themed "One Service: Fit for the Future of Conservation." Two very important things tied to that theme occurred during the week: First, we looked to the future and engaged all members of the leadership team in dialogue around an inspiring vision for the Southeast Region:

Together, we will connect lands and waters to sustain fish, wildlife and plants by being visionary leaders, bold innovators and trusted partners, working with and for people.

Secondly, we received targeted training from Franklin Covey that left us more "fit" to achieve that vision as we consider, plan and execute our daily work.

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Carolina bishopweed rediscovered in Georgia

By Russell Webb, Savannah National Wildlife Refuge

Carolina bishopweed has been described as an, "unassuming plant." However, after going missing in Georgia for a half-century, its recent re-discovery on the Savannah National Wildlife Refuge is raising eyebrows, and hopes of conserving this rare species.

The bishopweed is a member of the carrot family that favors the edges of tidal freshwater marshes, where its slender stalks and small white flowers are easily missed or confused with similar species. There's no overlooking the plant's at-risk status, however. Petitioned for Endangered Species Act listing, Carolina bishopweed has been documented only in the Carolinas and Georgia, and was considered extirpated in Georgia. Carolina bishopweed has not been seen near the refuge since Biologist John Bozeman, collected a specimen on July 14, 1966. On a hunch, a group of biologists including Chuck Hayes and Wayne Harris, recently visited the area where the plant was last seen. Bingo. They found about 35 plants. Identification was confirmed through other botanists, and on a return visit in June, some seeds were collected. The State Botanical Garden of Georgia will try to grow the plants. If successful, those will be replanted at Savannah National Wildlife Refuge, boosting the profile and promise of a plant long thought lost in the state.

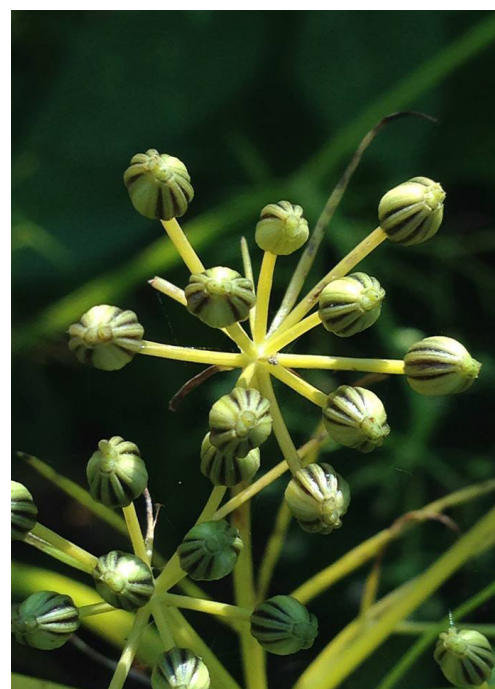


photo: April Punsalan, USFWS



Fish and Wildlife Service and Georgia Department of Natural Resources staff members monitor bishopweed, photo: April Punsalan, USFWS

In reading the report, it may help you to know how we carried out our deliberations. In the spirit of One Service and our landscape-level vision, leaders met for two of the three meeting days in cross-programmatic breakout groups organized around our six Landscape Conservation Cooperative geographies: Appalachian, Caribbean, Gulf Coast Prairie, Gulf Coastal Plains and Ozarks, Peninsular Florida, and South Atlantic. On the third day, leaders met in their respective programs to consider how to leverage our established organizational structure to achieve interdependent, landscape-scale conservation. A meeting software known as MeetingSphere was used in all breakout sessions to allow all leaders to express their thoughts, listen to one another, and rate and rank input.

Our excellent training occurred in plenary sessions. In the report, you will find some terms from our training referenced by leaders, and the terms are defined within the text.

It is the hope of all your leadership team that you will be challenged and inspired by what you read and, more importantly, that you will help to keep the dialogue going in every corner of the Southeast Region. Ours is a proactive, all-hands-on-deck vision. It can only be achieved if all of us commit to being visionary leaders, bold innovators and trusted partners in the work that is ours to do. Each of us has a unique role to play in the job of connecting the lands and waters that sustain our Region's fish, wildlife and plant resources. And everyone's contribution matters. ❖

- *Cindy*

What's Trending

By Katherine Taylor, External Affairs



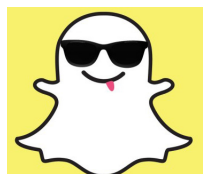
Apps: Good Bugs is a free app that helps gardeners and naturalists identify insects that are beneficial, and native plants that will help attract them. This free app is a great tool that promotes pollinator conservation.

#MostSharedStory: In September we shared our updates to red wolf recovery on Facebook and the story was shared 258 times, reaching over 89,000 Facebook users.



Red wolf pups, photo: USFWS

Social Media: Snapchat continues to be the go-to social media platform for younger audiences. While the Service does not currently have a Snapchat account, DOI welcomes "takeovers" from our agency. If you have an idea for a visual storytelling opportunity, contact Katherine Taylor, katherine_taylor@fws.gov.



Tracking “Panther,” the swallow- tailed kite

*By: Jess Sutt and Mark Danaher,
Florida Panther National Wildlife
Refuge*

June 8 was an exciting day at Florida Panther National Wildlife Refuge when The Avian Research and Conservation Institute captured a swallow-tailed kite, now known as “Panther”, and fitted him with a GPS tracking transmitter fully funded by Friends of the Florida Panther Refuge.

Panther has given collaborators the amazing opportunity to follow his travels from refuge nesting grounds, more than 600 miles up to South Carolina, then back down to cross the Gulf of Mexico and the Andes for southbound migration! While in the Amazon, Panther’s transmitter didn’t have much cell coverage, but he connected again on August 22, from the State of Rondônia, Brazil. Interestingly, the area used in Rondônia looks similar to heavily used habitats around Brooksville, Florida.

Panther has flown more than 4,000 miles since his capture, and everyone eagerly awaits the track of his continued travels. You can follow Panther and other swallow-tailed kites that The Avian Research and Conservation Institute are tracking at: <http://www.swallow-tailedkites.org/>

Tracking this kite and others is critical for helping to better understand the kites’ natural history. The solar-powered GPS/GSM tracking device attached to Panther allows collaborators to analyze habitat use vs. availability, estimate home range, better document important communal roosts and nesting habitat, and ultimately identify swallow-tailed kite wintering destinations. With this data, Florida Panther National Wildlife Refuge is able to better understand important habitats on the refuge and surrounding lands. This work also allows the refuge and The Avian Research and Conservation Institute to improve public awareness and enthusiasm for the



Project Leader Kevin Godsea assists in removing “Panther” from the capture net, photo: Mark Danaher, USFWS

swallow-tailed kite through social media updates, blog postings, and presentations throughout Southwest Florida. Critical data is being collected for science, and everyone involved is educating the public with a powerful conservation message about the swallow-tailed kite and migratory birds. See the Florida Panther National Wildlife Refuge’s Facebook page at <https://www.facebook.com/FloridaPantherNWR>.

What makes mangroves attractive to white-crowned pigeons?

By Kate Watts, Florida Keys Refuge
Florida Keys



A volunteer conducts white-crowned pigeon surveys, photo: USFWS

Refuge volunteers focused their efforts on helping the white-crowned pigeon this summer. The volunteers partnered with Refuge Biologist Kate Watts to monitor nesting activity on offshore mangrove islands within Great White Heron and Key West National Wildlife Refuges. Early each morning, volunteers were transported by motorboat out to an island to count breeding male pigeons as the birds enter the nesting islands. Kayaks were anchored just off the island, where volunteers heard and appreciated the many wildlife species that call these small islands home. During these surveys, point counts were conducted for all bird species on the islands, and human disturbance information was recorded. The results of this survey highlight islands of importance for white-crowned pigeon nesting, provide long-term trends in breeding activity on the refuge, and identify characteristics of mangrove islands that make them attractive to pigeons.

White-crowned pigeons nest primarily on isolated mangrove islands to avoid predators; however, these islands provide almost no food for the parents or their young. Both male and female white-crowned pigeons incubate their eggs. Females spend the afternoons and evenings sitting on their nest, cooling eggs during the mid-summer heat spells. Males will often sleep over foraging grounds - sometimes these areas are 10 to 15 miles away. At first light, male pigeons will gorge themselves with figs and berries, before flying back to their nest site to incubate eggs or feed their young. Females are then relieved of their duty, and will leave the mangrove island to find food for themselves.

In addition, Friends and Volunteers of Refuges (FAVOR) Florida Keys is sponsoring a Florida Keys Live Critter Cam project – a fantastic way to offer outreach to the public about the unique and interesting wildlife species that are found in the Florida Keys, and provide important information about nesting habits and parental care of the species observed. The camera is currently located on a protected mangrove island, allowing refuge staff and the public to monitor nesting activities of numerous species of birds throughout the year.

During the initial testing phase, the camera has been placed on a white-crowned pigeon nest, offering an extraordinary glimpse at the life of this mysterious and rare bird. The nest camera may also be placed on nests of great white herons, great egrets, tri-colored herons, little blue heron, reddish egrets, clapper rails, or other bird species over the coming years. Follow the Florida Keys National Wildlife Refuge's Facebook page at <https://www.facebook.com/FloridaPantherNWR>. ❖

Strong public interest shown in updated Gulf Restoration Plan

By Nadine Siak, Gulf Restoration Program

Public interest in Gulf of Mexico restoration is still strong, as illustrated by the flood of public comments received by the Gulf Coast Ecosystem Restoration Council on its draft update of its 2013 Comprehensive Plan. More than 65,000 comments were received via the Department of the Interior's Planning Environment Public Comment online portal August 23rd to October 7th, 2016. The Department is one of six federal agencies that, along with the governors of the five Gulf states, make up the Council. The Council has responsibilities with respect to 60 percent of \$4.4 billion allocated to the Gulf Coast Restoration Fund through the recent resolution of civil claims against BP for the 2010 Deepwater Horizon oil spill. The Council's director, Justin Ehrenwerth, said during three webinars and six public meetings held September 8th – October 4th that the proposed Comprehensive Plan Update will position the Council to make

the most effective use of funds as they become available beginning in 2017. He added that the proposed updates capture important public input and lessons learned by the Council when it developed its first list of approved restoration projects and activities in 2015. Individuals who made comments at the public meetings for the proposed update were very supportive of the suggested changes. Many people expressed support in particular for the importance of cooperation and coordination among agencies and funding sources associated with the Deepwater Horizon oil spill. Also popular with those making public comments was the Council's continued commitment to both a broad watershed-level approach to Gulf restoration, as well as large-scale projects. The Council's increased emphasis on public engagement and science-based decision-making was also praised.

At a public meeting held in Panama City, Florida, Jessica Koelsch, who spoke for the National Wildlife Federation, commented on the global significance of Gulf restoration. She said "restoring the Gulf is still the largest ecosystem restoration on the planet. It is important to keep that in mind."

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In July 2012, the Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast States Act (RESTORE Act) established the Gulf Coast Ecosystem Restoration Council. One of the Council's primary responsibilities is to develop a Comprehensive Plan that provides a framework to implement a coordinated, Gulf Coast region-wide restoration effort in a way that restores, protects and revitalizes the Gulf Coast.❖

Follow the Leader

Bill Pearson, Alabama Ecological Services Field Office, Daphne

By Denise Rowell, Alabama Ecological Services Field Office, Daphne

Bill Pearson has been the Alabama Field Office Supervisor since 2006. He has seen a lot since he has moved to the Gulf Coast, leading the office through the 2010 oil spill, the government shutdown of 2013, and numerous resource challenges like the Alabama beach mouse permitting and gopher tortoise issues. Through all of that, he was recognized in 2013 with the Regional Director's Honor Award as a Strategic Habitat Conservation (SHC) Champion.

How did you implement Strategic Habitat Conservation in your office?

Generally speaking, implementing SHC in an Ecological Services field office is a much easier task than in other divisions of the Fish and Wildlife Service; largely because our mission is so broad, and we are fortunate to work across the state under several legal authorities. As I see it, implementing SHC required more of a shift in "how" we do business in an Ecological Services office; it required a shift in thinking about "what we do", and "where we do it." As an office with a largely regulatory role, it's easy to get tied to the desk and bogged down by paperwork. Although our regulatory responsibilities require us to spend time evaluating projects, writing technical assistance letters of response or issuing stamp replies, and processing permits, we realized that there was another way to meet our technical assistance demands AND focus ourselves in on-the-ground recovery work.

We do that with our "Rock Projects." The idea behind a "Rock Project" comes from the old adage that in order to stay focused on the most important tasks, one must put the big rocks in the work bucket first, not allowing the more numerous and less important smaller pebbles to take up space and not allow for the large rocks. In other words, we don't want the little things to get in the way of larger, more meaningful projects. This is especially important because Alabama leads the nation in aquatic biodiversity, and only two states in the country have more federally listed species than Alabama. With this fact in mind, we need to focus on the bigger picture of the recovery of species and not get buried in the day-to-day drill of office work at the computer. So, in order to refocus ourselves on the task of species recovery, I charged our staff to think about what might be the greatest conservation challenges, threats, or opportunities they see on the ground when they are out in the field or performing their day-to-day activities. Not only does this "bottom up" approach make sense, I think it helps morale as well, as our biologists have a large hand in developing their workloads and feel confident that their efforts are directed toward important resource work. Once the staff has identified project ideas, they create their own project and recruit office staff to assist in its completion. The only criterion is that they must develop their project within the SHC framework. In this way, we have adjusted our thinking to one that is recovery based and supported by a "bottom up" approach to the development of recovery projects, all framed in the SHC model. I believe this is a very different way to work within an Ecological Services office, and certainly is much different than when I was a biologist in the North Dakota Ecological Services office years ago.

Where do you see the Alabama Field Office in 10 years? I see us as an Ecological Services leader in the region, fully integrated in the SHC model and working hand in hand with the Landscape Conservation Cooperatives that cover Alabama. As I look forward, I want to continue our ability to create meaningful Rock Projects to spearhead our recovery efforts. A great example of a current office Rock Project is our Strategic Habitat Units (SHU). Our SHU project focuses on 51 high priority watersheds in Alabama. These SHUs guide our aquatic

recovery efforts in concert with a strong partnership of state, federal, and private organizations.

Additionally, we are currently beginning to develop a terrestrial version of the SHU project, focused on the longleaf pine ecosystem.

Once developed, it would help focus our terrestrial recovery efforts in the state. Using the SHC model as a guide, we have begun making headway in this effort as we enter into a partnership with Resource Management Service in their Coastal Headwaters Forest project. This partnership is an unprecedented opportunity for landscape-level ecosystem restoration. Through the Resource Conservation Partnership Program (RCP) private, working forests will be managed, both long-term and large-scale, for longleaf pine habitats and permanently protected from development. By conserving and restoring the longleaf pine ecosystem and its associated habitat matrix, more than 40 federally listed and at-risk species will benefit.

For the first time, more than 200,000 acres of Resource Management Service property will be available for us to employ the SHC functional elements. We will begin with a biological planning effort featuring species surveys of project sites. Conservation design efforts will lead us to habitat based projects that we would conduct along with our SHU partners. We hope that through our conservation design and delivery of landscape level projects, we will discover unique habitats, such as pitcher plant bogs or isolated wetlands that could be restored, benefitting secretive species like the flatwoods salamander and other amphibians. We anticipate the ability to continue to drill down into the SHC elements as we conduct project monitoring and assumption-based research loops. The Coastal Headwaters Forest project is an innovative partnership that will serve as an example for other forest managers, as well as build trust with an extremely important natural resource management company. I hope that our new way of doing business will continue to provide a lot of opportunities for our biologists and encourage and stimulate even more creative ways to help recover Alabama's federally protected and at risk species.

Bragging Rights

Clarks River NWR staff and volunteers visit Wolf Creek

By Moria Painter, Wolf Creek NFH

In July, Wolf Creek welcomed Clarks River Assistant Manager Kimberly Sykes; Pathways students Sam Waite, Jason Matthews, and Maddy Heredia; and Student Conservation Association students Nick McElhaney and Katelyn Beckemeyer on a two-day visit to the hatchery. Moria Painter led the group on a tour of the Visitor Center and provided a presentation on the Wolf Creek Environmental Education programs.

The highlight of their visit was an adapted Flying Wild activity called “The Great Fish Migration.” The participants played the role of threatened or endangered fish and swam through the obstacles, some to a tragic end. For the second day of the trip the staff and volunteers from Clarks River toured the Wolf Creek Hatchery and surrounding grounds led by Ashley Buffington. Deputy Project Leader Sheila Kirk took the group on a tour of the tank room, outdoor raceways, and the threatened and endangered species lab. After the tours, our guests geared up to work alongside our fish production crew, assisting with sample counts and splitting raceways. ♦



The Clarks River Refuge crew in front of the Wolf Creek National Fish Hatchery sign, photo: Moria Painter, USFWS

Mammoth Springs holds successful fall fishing event

By Sara Seagraves, Mammoth Spring NFH

Mammoth Spring National Fish Hatchery in Arkansas held its first Annual Fall Fishing Event in celebration of National Hunting and Fishing Day on Saturday, September 24, 2016. The event consisted of a Fishing Derby, fly tying and casting demonstrations by local guide Mark Crawford, inflatable archery, a water safety booth hosted by the U.S. Army Corps of Engineers, free food, and lots of door prizes. Seventy-four children attended the event.

The event was made possible by a grant through Wonders of Wildlife, donations from local sponsors: Modern Woodmen, Fin to Fur, Simmons Bank, Favorite



Almost every kid who came out to the Derby caught their limit, photo: Sara Seagraves, Mammoth Spring National Fish Hatchery

Fishing, Hirsch, the Arkansas Game and Fish Commission, the Friends of the Mammoth Spring National Fish Hatchery, and a number of volunteers. We hope to continue providing events like this to help foster a love of fishing and nature in our future generations.

Coming in Spring 2017 to Chattahoochee Forest

*By Crystal Thomas, Chattahoochee
Forest NFH*

Monarch butterfly habitat debuts at Chattahoochee Forest National Fish Hatchery in the spring of next year.

Project Leader Kelly Taylor and staff members came up with the idea! What better way to make efficient and Monarch saving use of a large strip of grass that



Kelly Taylor observes the progress towards getting the ground ready for the Monarch Butterfly Habitat at Chattahoochee Forest.

will no longer need to be maintained for weeks out of the year with a mower or weed eater than to sow it with native milkweed and wildflowers?

Currently, the staff is using plastic to remove grass in preparation for planting the soil. The habitat is expected to help save the Monarch and serve as a tool for educating visitors. Additionally, it is anticipated that lots of heads will turn to enjoy the beauty the habitat will provide. ❖

The work of the “Cattail Kings.” in Florida

*By Tony Brady, Welaka National Fish
Hatchery*

Most Americans are familiar with at least one military base located near them. What most Americans don't know is that military bases are comprised of nearly 25 million acres of land that represent diverse habitat types and contain a wealth of plant and animal life. While the purpose of these bases is to support military operations to protect our country, these diverse habitats provide an opportunity for the Service to work with the military to conserve, protect, and enhance fish, wildlife, plants, and their habitats. Congress recognized in 1960 that our country's military bases provided this conservation opportunity and passed the Sikes Act. The Sikes Act requires that military bases write an Integrated Natural Resources Management Plan before Service offices can work on any base.

For the past three years, the Welaka National Fish Hatchery has worked with MacDill Air Force Base near Tampa, Florida. The initial goal of the agreement was for the hatchery personnel to manage and control aquatic vegetation so that the waters of the base would have improved habitat for fish and wildlife, increased water access for people from shore and boats, and more outdoor recreational opportunities for Air Force staff members and families. The waters and shorelines also have become much more aesthetically pleasing since inception of this agreement.

In August, aquatic vegetation control work continued in and around some of the base's Surface Water Improvement Management waterways. Allen Walker and Ken Blick spent most of their time treating cattails and hydrilla that once limited or completely prevented the use of these waterways. Walker's and Blick's reputations have earned them the title the “Cattail Kings.” Their reputations have spread to other military facilities, such as Avon Park Air Force Range near Avon Park, Florida, in which the hatchery is talking with Avon Park personnel about controlling aquatic vegetation around the base.



Lewis Lake is once again usable by the Airmen and women and their families at MacDill Air Force Base.

Hummingbirds!

By Joan Stevens, Tennessee National Wildlife Refuge

The hummingbird, one of nature's tiniest birds, but one with a lot of character! To see one up close is to view a marvel in design. On August 13, more than 400 visitors were treated to close encounters with ruby-throated hummingbirds during the second annual Hummingbird Banding Event at Tennessee National Wildlife Refuge in Springville.

Federally Licensed Master Bander, Cynthia Routledge of Southeast Avian Research in Clarksville, Tennessee, conducted banding on Ruby-throated hummingbirds throughout the day on the refuge's visitor center back patio. She was adept at fielding many questions and explaining what she was doing as she conducted her work collecting and recording data from each bird.

Along with the banding demonstration, several special programs were given by Mrs. Routledge on hummingbird natural history and recent research. Visitors also were treated to the visitor center exhibits, a new discovery hiking trail where they could use the Junior Refuge Manager activity backpacks, children's craft tables featuring hummingbird and other nature crafts, and hot dog lunches hosted by the Friends of Tennessee National Wildlife Refuge.

This event is part of the Refuge Discovery Series which features programs and events sponsored by the Friends of Tennessee National Wildlife Refuge. Each month the public is treated to a new experience on ways to connect with and enjoy nature. Upcoming programs will feature a live animal program with Backyard Wildlife, an Astronomy Night on the Refuge, Trim a Tree for Wildlife, and a Bald Eagle/Waterfowl special tour of the refuge.



Visitors viewed Ruby-throated hummingbirds, photo: Richard Graves, Friends of Tennessee NWR



Refuge Ranger Summer Camp at Banks Lake

By Alex Dye, Banks Lake NWR

Banks Lake National Wildlife Refuge held its first Junior Refuge Ranger Summer Camp in July. The camp was facilitated by staff at Okefenokee National Wildlife Refuge in Folkston, Georgia. Children aged 8 to 12 from Lakeland, Georgia, participated in a half day of fun activities and educational programs. Fourteen campers participated in a variety of programs including canoe and kayak lessons, fishing, archery, and paper making. After campers completed the day's events, they were awarded with a certificate, a Junior Refuge Ranger badge, and a camp t-shirt during a ceremony to congratulate them on their achievements. The camp was made possible due to the support and collaboration of Okefenokee National Wildlife Refuge, Banks Lake Outdoors, and the many staff and volunteers who lent a helping hand. The refuge has received positive feedback from the event and looks forward to continuing the camp next summer and providing quality experiences for the children of Lakeland to remember for years to come. ❖



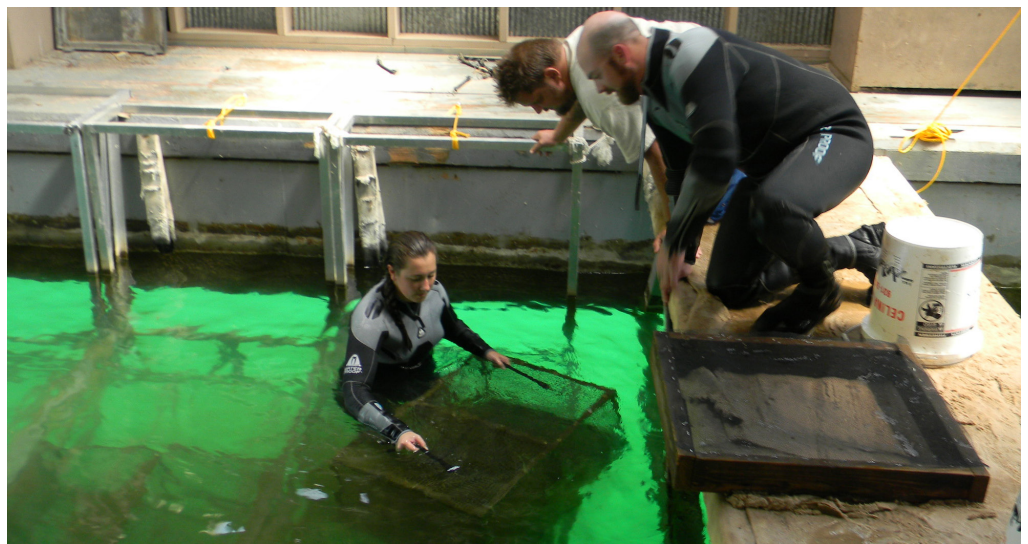
Fourteen campers received a t-shirt, a certificate, and an official Junior Refuge Ranger badge, photo: Susan Heisey, USFWS

Dale Hollow's successful mussel harvest

By Andrew Currie, Dale Hollow NFH

A fourth mussel cage culture trial began in the spring and finished on September 7, when personnel from the Dale Hollow National Fish Hatchery, White Sulphur Springs National Fish Hatchery in West Virginia, and the Tennessee Wildlife Resources Agency harvested juvenile mussels from the suspended cages located inside of the Corps' of Engineers boathouse on Dale Hollow Lake.

Fifteen cages were harvested, producing 74 pink mucket mussels and 6,611 black sandshell mussels. The numbers of black sandshell mussels really increased compared to last year. The harvested mussels came from walleye host fish. The cage holding walleye host fish infested with pink mucket glochidia produced most of the harvested mussels. Most of the largemouth bass host fish infested with pink mucket mussels died early in the trial and did not contribute to the number of harvested pink mucket mussels.



Jessica Radich, Matt Padgett, and Tyler Hern remove mussel culture cages from an underwater rack, photo: Andrew Currie, USFWS

The decision was made to use walleye next spring as host fish for the pink mucket. The pink mucket is listed as federally endangered. Walleye are available from the Eagle Bend State Fish Hatchery, (Tennessee Wildlife Resources Agency) in the spring and the fish do well in the cages.

Every year is a new learning experience requiring constant modification of techniques to increase production. All of the mussels are being used to help meet recovery and restoration goals for a Natural Resources Damage Assessment for the Ohio River Islands National Wildlife Refuge in West Virginia.



A hard-working YCC crew trims brush along the Chesser Island Boardwalk, photo: Sarah Wyatt, USFWS

Youths gain experience at Okefenokee

By Alex Dye, Okefenokee NWR

This summer, young people from Folkston, Georgia, performed maintenance and conservation education projects around Okefenokee National Wildlife Refuge. Several students from Charlton County High School participated in the Youth Conservation Corps (YCC) and gained valuable work experience. They mowed roadsides, maintained hiking trails, and worked in the swamp to keep canoe trails open. Other projects included aiding refuge biologists with red-cockaded woodpecker surveys and banding hatchlings. They also had the opportunity to join U.S. Fish and Wildlife Service-Fisheries, Georgia Department of Natural Resources, and the University of Georgia in research on the Atlantic sturgeon in the St. Marys River.

Andrew Hughes, the YCC Adult Leader for the summer, guided the crew while helping to pave the way for young people to become interested and involved in the National Wildlife Refuge System. A key project was assisting with the Junior Refuge Ranger Summer Camps. The young people helped with camp activities different activities and encouraged the children to be stewards of the environment. ❖

Successful mussel reintroduction

By Sheila Kirk, Wolf Creek NFH

On Wednesday, August 31, 2016, Wolf Creek National Fish Hatchery Deputy Project Leader, Sheila Kirk, and Biological Science Technician, Alan Kimbler, transported 2,050 Northern Riffleshell and 8,300 Clubshell freshwater mussels from the Highway 62 bridge crossing over the Allegheny River in Tionesta,



Alan Kimbler, loads tagged freshwater mussels at the Allegheny River in Tionesta, Pennsylvania, for transport to the Licking River, photo: USFWS



photo: USFWS

Pennsylvania, to the Licking River outside Butler, Kentucky. A much needed rehabilitation project for this bridge began in October, and the mussels were relocated to the Licking River. Both of these federally endangered species historically inhabited the Licking River, but they have been extirpated from this area. Personnel for the Kentucky Department of Fish and Wildlife Resources' Center for Mollusk Conservation will reintroduce these mussels to reestablish populations in the Licking River from the relocated mussels.

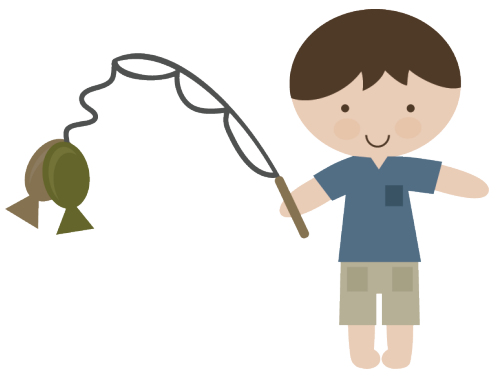
Fifth Annual Wounded Warrior Fishing Event

By Ashley Buffington, Wolf Creek NFH

On Monday, September 12, Wolf Creek National Fish Hatchery held its Fifth Annual Wounded Warrior Fishing Event in order to celebrate the service and sacrifices of our service men and women. Just before sunrise, 22 veterans set out with fishing guides on Lake Cumberland. After several hours of striped bass fishing, the group headed back to Wolf Creek for a complimentary lunch and trout fishing on Hatchery Creek. Wolf Creek staff members, volunteers, and the Friends of Wolf Creek National Fish Hatchery were honored to facilitate this rewarding event for our veterans and we continue to thank them for their service to our country. ❖



Veterans pose with their catches after the Fifth Annual Wounded Warrior Fishing Event, photo: USFWS



Leadership Quote:

The first great gift we can bestow on others is a good example.

—Frederic Morell

Annual Kentucky State Fair

By Ashley Buffington, Wolf Creek NFH

Wolf Creek National Fish Hatchery was honored to be a part of the annual Kentucky State Fair in Louisville again this year. The booth was staffed from

August 19-21 and August 26-28, by Deputy Project Leader Sheila Kirk, Biological Science Technician Chris Murphy, and Environmental Education and Outreach Specialists Moria Painter and Ashley Buffington. Visitors enjoyed stopping by to say “hello” to the trout and to capture a few photos with our angler cutouts. ❖



McCreary County 4H Club stops by Wolf Creek Hat booth at the State Fair, photo: USFWS

Annual Southcentral Kentucky Outdoor Expo

By Ashley Buffington, Wolf Creek NFH

On Saturday, August 6, 2016, Environmental Education/Outreach Specialist, Ashley Buffington, and staff Biologist, Robert Clark, represented Wolf Creek at the sixth Annual Southcentral Kentucky Outdoor Expo with over 3,000 visitors and 100 exhibitors. This event was a great way to introduce Wolf Creek to a wide range of outdoor enthusiasts.



Wolf Creek booth at the sixth Annual Southcentral Kentucky Outdoor Expo, photo: USFWS

Annual Kentucky Association of Environmental Education Conference

By Ashley Buffington, Wolf Creek NFH

Wolf Creek National Fish Hatchery's Moria Painter and Ashley Buffington attended the annual Kentucky Association of Environmental Education Conference, celebrating 40 years of environmental education. The conference was held on September 22-24, at the Lake Cumberland State Resort Park. They staffed the booth and participated in several informational sessions of a variety of topics including: vermiculture; pollinator gardens; science gardens for children; maximizing social media impacts and creating successful volunteer programs. This conference afforded Moria and Ashley tremendous knowledge and they are excited about some new ideas that they took away from these sessions. ❖



Moria Painter and Ashley Buffington in front of the Wolf Creek booth at the KAEE Conference, photo: USFWS

Friends and Volunteers

Fly Fishing Partnership at Red River National Wildlife Refuge

By Thomas Bullock, NLFF, and Terri Jacobson, Ranger

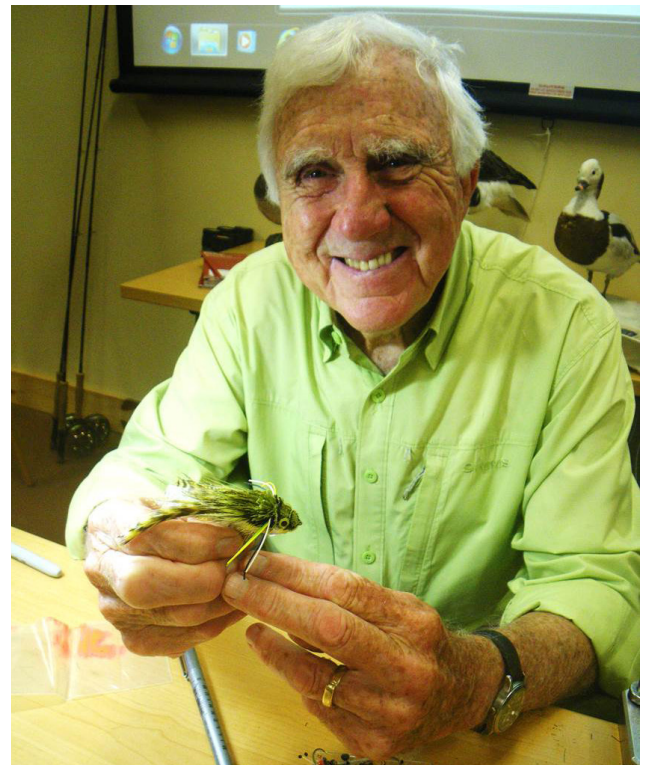
The Master's Series one-day fly fishing clinics started as a dream at a North Louisiana Fly Fishers (NLFF) board of directors meeting in the winter of 2013. The NLFF club meets at Red River National Wildlife Refuge in the Education Center. In exchange for a free meeting room, club members volunteer for the refuge at our annual fall celebration and teach fly tying at summer camps.

The refuge is the perfect place to hold an annual fly fishing clinic. Outside is a large lake with a boat ramp, floating dock, and open area needed for casting a fly rod on the water or grass.

Each clinic features casting demonstrations, fly tying and a feature program presented by the Master's Series guest speaker. Fifty fly fishing enthusiasts from three states attended

the first Master's Clinic where international competitive fly fishing expert Davy Wotton presented his program, The Art of Wet Fly Fishing. The next year, Dave Whitlock, author, artist, fly designer, teacher and lecturer led the clinic with his program, Bass Fishing on the Fly from Top to Bottom. The following cyear, Davy Wotton was asked back, and 65 people attended his clinic on Mastering the Nymph.

In 2016, 80 fly fishers drove from five states to hear Bob Clouser, the inventor of the Clouser Minnow. Using his fly, tied in various sizes, Bob has caught more than 90 species of fish from sunfish to blue fin tuna! The next Masters Series will feature George Daniel, probably the brightest and fastest rising star in the USA fly fishing community today. The program will be July 22, 2017. If you are interested in joining us at the refuge for next year's Master's fly fishing clinic visit the website at <http://www.northlaflyfishers.org/north-louisiana-fly-fishers.php>.



Dave Whitlock shows off one of his famous fly-fishing lures at the 2014 Master's Clinic at Red River NWR, photo: Terri Jacobson, USFWS



Second Annual Marine Debris Program at Hobe Sound

By Kate Fraser, Student Conservation Association Intern



Braden Price was named the Official Supreme Scavenger of the Refuge, photo: Diana Gu, USFWS

The Hobe Sound National Wildlife Refuge hosted volunteer events for a number of remarkable youths during the summer. One group that stood out was the Boys and Girls Club of Martin County, Florida. The group participated in the refuge's Second Annual Marine Debris Program when they participated in three beach clean-ups, assisted with trail trimming, and listened to three environmental lectures. One of the main goals of the program is to get children living in urban areas outdoors, having fun and at the same time learning about the world around them. During the beach cleanups, the children spent hours picking up all sorts of debris including

plastic bags, water bottles, glass bottles, and bottle caps. An end of summer scavenger hunt was designed for the children to have fun while they kept track of their debris and competed to become the Supreme Scavenger of the Refuge. The group also helped trim the refuge's hiking trails. Biological Technician Diana Gu taught the volunteers about the mission of the National Wildlife Refuge system, the effects of marine debris, the role of sea turtles in maintaining beach and oceanic health, and an overview of the sand pine scrub habitat. The volunteers learned how their work specifically helps the refuge and Florida's ecosystems. ❖



Marine debris found on the refuge's Jupiter Island Track, photo: Kate Fraser, SCA Intern

Fourth annual Project Healing Waters fly fishing event

By Andy Currie, Dale Hollow NFH

The Friends of Dale Hollow National Fish Hatchery teamed up with the Dale Hollow National Fish Hatchery, Middle Tennessee Fly Fishers, U.S. Army Corps of Engineers, and Project Healing Waters to sponsor a day of fly fishing on the Obey River and hatchery public fishing area for area veterans. Project Healing Waters Fly Fishing Incorporated is dedicated to the physical

and emotional rehabilitation of disabled active military service personnel and disabled veterans through fly fishing and associated activities including education and outreach. A total of 18 veterans from Cookeville took part in the August 6, event. Following a morning of fishing, attendees enjoyed a catered meal at the Corps' picnic pavilion located at the Dale Hollow Dam Recreation Area. Friends Group members, hatchery staff, and local volunteers helped make the event a success. Special thanks to the Corps for scheduling water releases around the event. Plans are underway to hold a similar event next year.



Eighteen veterans from Cookeville, Tennessee, went fishing, photo: Andy Currie, USFWS

Junior Refuge Ranger Summer Camp at Okefenokee

*By Alex Dye,
Okefenokee NWR*

Okefenokee National Wildlife Refuge held the third consecutive year of Junior Refuge Ranger Summer Camps. Thirty-six campers participated in three half-days each week of fun activities and educational programs, including fishing, archery, nature journaling, paper making, and a guided boat tour led by Okefenokee Adventures. Campers also were treated to an historic tour of the Chesser Island Homestead. At the conclusion of each camp session, participants were awarded a Junior Refuge Ranger badge, a camp shirt, and a Okefenokee National Wildlife Refuge backpack. A special celebration ceremony was held, in which family members joined



One of the Junior Refuge Rangers admires his newly awarded badge, photo: Sarah Wyatt, USFWS

in celebrating the 2016 Junior Refuge Rangers with cake and refreshments. The 2016 Junior Refuge Ranger Camps were made possible due to support and collaboration with the Okefenokee

Wildlife League, and all refuge staff, members, volunteers, and interns who lent a helping hand. The refuge is looking forward to continuing this summer camp tradition! ♦

Refuge staff partners with sportsmen's group to combat invasives

*By Joseph Roth, Arthur R. Marshall
Loxahatchee NWR*

Conditions were hot, humid, and wet, and there wasn't a cloud in the sky, but morale was soaring due to extensive planning paying off. In what proved to be a successful effort in the restoration of critical northern Everglades habitat, on Saturday, September 10, 2016, Arthur R. Marshall Loxahatchee National Wildlife Refuge held its first ever cooperative volunteer day with the Florida Sportsmen's Conservation Association (FSCA). FSCA advocates for protecting and restoring Florida's unique natural resources while promoting responsible public use. FSCA was able to bring nine of their private airboats to accomplish this day of service. This occasion marked the first time since the mid-1980's that private airboats were allowed on the refuge.

Private airboats are not permitted to access the refuge due to their potential to damage and degrade wildlife habitat. When FSCA members arrived at the refuge early in the morning they were required to clean their vessels in order to prevent contaminating the refuge with any foreign plants or otherwise harmful residues (They were also required to clean their vessels upon departure.) When all boats were cleaned, Refuge staff and 19 FSCA members traveled in groups into the interior to treat small stands of Melaleuca (a highly invasive exotic tree in south Florida). Once at the sites, FSCA members and refuge staff waded through tree islands and used machetes to girdle or hack down the Melaleuca trees which were then sprayed with herbicide. Approximately 2.5 acres were treated. Following the strenuous morning work, lunch was provided by the Friends of Loxahatchee National Wildlife Refuge.

The day took a lot of hard work and planning, and is the first of additional projects planned to benefit the refuge. Plans are already underway to work together again on Earth Day 2017 to remove an old research site no longer being used in the interior. Working together with the FSCA should help build a partnership in a shared appreciation and advocacy for the preservation of this remaining portion of the once vast northern Everglades.



Refuge staff members partner with the Florida Sportsmen's Conservation Association to control Melaleuca, photo: USFWS

Volunteers make a difference!

By Steve Reagan, and Andrea Dunstan, Sam D. Hamilton Noxubee NWR

Volunteers from Mississippi State University demonstrated the positive impact they can have on the Sam D. Hamilton Noxubee National Wildlife Refuge. A total of 870 volunteers dug, framed, and poured concrete, for the start of a new wheelchair accessible trail within the refuge's Connecting People with Nature area. The seven-mile trail is described within the refuge's Comprehensive Conservation Plan, and this segment was created to connect the Bluff Lake boat ramp to the Visitor Center and office.

On the first day, 750 volunteers divided into 40 teams. Each team was equipped with tools, stakes, and cement form boards. Teams created the path to its required width and depth and constructed the concrete forms for later pouring of the

cement. A 690-foot segment of the trail was created in less than three hours!

Two days later, an additional 120 volunteers from the Mississippi State University arrived to help with the pouring of concrete. The volunteers formed into six teams, were instructed on how to screed and finish concrete, and put those skills to work as eight concrete trucks began to arrive. This was a new experience for most of the students, and they did a great job putting concrete on more than 500 feet of the trail segment.

In an era of tight budgets and smaller staffs, volunteers can make a real difference. Now, the public has the start of a Connecting People with Nature Trail for little more than the cost of the concrete.



So many volunteers came to help build the trail that we couldn't capture them in one photo, photo: USFWS

We expect to see these students return and point out with pride what their efforts have accomplished. ❖

16th Annual Youth Fishing Derby hosted at Flatlander's Lake

By Alex Dye, Okefenokee NWR

In June, Okefenokee National Wildlife Refuge hosted the 16th annual Youth Fishing Derby. Children from several communities in and around Lakeland, Florida; met at Flatlander's Lake, a small lake near the Banks Lake National Wildlife Refuge. Staff members registered 101 children who participated in the derby in three different age groups; 3-6 year olds, 7-11 year olds, and 12-15 year olds. First, second, and third place trophies were awarded for most fish and largest fish caught, for each age group. The event was held in conjunction with National Fishing and Boating Week which promotes safe and responsible fishing, boating, and water stewardship. The event also coincided with "Georgia Free Fishing Days" which encourages people to get outside and enjoy the outdoors by fishing, with no license required.

After the fishing period ended, participants, along with their family and friends, joined staff and volunteers for wildlife exhibits, crafts, games, and raffles. Hot dogs and drinks were provided by the Valdosta Bassmasters.



Raffle winners at Flatlander's Lake, photo: Michael Lusk

Georgia Hunting and Fishing Federation supplied 30 fishing rod and reel combos to be given away for the raffle. A knot tying demonstration along with a fish and wildlife identification exhibit was presented by the Georgia Department of Natural Resources. The youth fishing

derby is a successful partnership between the U.S. Fish and Wildlife Service, the Valdosta Bassmasters, Georgia Department of Natural Resources, Georgia Hunting and Fishing Federation, Okefenokee Wildlife League, the City of Lakeland, and the Lanier Chamber of Commerce.

In the Garden

Monarch butterflies reared on rooftop of NRDAR's Fairhope Field Office

By Nanciann Regalado and Helen Hammergren, USFWS



A potted milkweed in the Fairhope Office's butterfly garden, photo: Helen Hammergren, USFWS

The journey began with Dan Ashe's February 2016 e-mail: This just in: 2015 – 2016 Monarch Numbers Released!!! Inspired by his message, the Deepwater Horizon NRDAR Field Office staff members were moved to do their part to save Monarch butterflies

Planting a butterfly garden in an urban setting can be a challenge, but not for this dedicated team. They decided that no one was likely to complain about the "beautification" of their building's rooftop patio. They planted butterfly-attracting plants in pots and arranged them around the patio. As attractive as the flowers were, it wasn't until Helen Hammergren, administrative officer, set out her version of a decoy that the axiom



Mindy the Caterpillar, photo: Helen Hammergren, USFWS

"plant it and they will come," proved true. One Saturday morning Helen noticed a Monarch caterpillar on leafless milkweed stalks in her garden. Helen knew just what to do – relocate that hungry caterpillar to the untouched milkweed at the office.

Here's how Helen tells the story: I knew we had plenty of untouched milkweed at the office, so I captured it and took it to the office. It started eating right away. Coincidentally I saw our first monarch flying around the office garden that day.

When I returned on Monday, the caterpillar was nowhere to be found. The patio is surrounded by a four-foot concrete wall; so, I figured it couldn't have gone far, but as hard as we all searched, we couldn't find it. Disappointed, I opened the door to get back into the office, and there it was, attached to the metal door frame. It was still a caterpillar, but within an hour it had formed a chrysalis. We named it Mindy the Monarch and started a countdown. Meanwhile we noticed that there were eggs on the potted milkweed; the Monarch I saw that Saturday must have done its thing! So at that point we were watching both Mindy and the eggs. Nine days later, we not only had a lot of little caterpillars, but we could see the wings folded up in Mindy's chrysalis. Within half an hour, Mindy the butterfly had emerged. She held on to the door frame while her wings dried out. About an hour later, she took a test flight and landed on one of the milkweed plants. A few minutes later Mindy took off and flew away.

The young caterpillars now had our attention, and they sure grew fast! We babied them. If one crawled out of the pot onto the concrete roof we would pick it up and put it back on a plant. If they stripped the plants in one pot, we would move them to another pot. When the "pickin's" got real slim for the caterpillars, several folks brought in plants from their home garden to help feed them.

During the first week of September, we started to find chrysalis attached under the rims of pots, under a little metal table, even attached to a milkweed plant! The watch began again and in about nine days the butterflies began to emerge – as many as four in one day! It was so amazing every time.

Helen's Monarch story is particularly poignant for the Deepwater Horizon NRDAR case team because at the end of this year, Helen will retire after spending more than five years working on the oil spill. In her honor, however, office staff has pledged to carry on its Monarch breeding efforts. Always looking to expand the office's positive influence on the community, Brian Spears, restoration manager, asked the property manager to agree to let them expand the butterfly garden to the periphery of the building's parking lot. Because Helen will be badly missed, the staff members decided they'll name the first Monarch caterpillar of 2017 after her.



Mindy the Monarch in flight, photo: Helen Hammergren, USFWS

Nadine's Word Search Challenge

By Nadine Siak, External Affairs

Locate the following words in the grid:

BISHOPWEED, CONCRETE, DEBRIS, HEALING, MANGROVE, MUSSEL, SIKES, WALLEYE

Note: Words may be spelled forwards, backwards, up, down or diagonally. Words may also overlap (i.e., share letters).

The solution will be printed in the next edition of E-Grits. Happy hunting!

D	O	L	O	G	D	K	W	E	R	V	A
H	E	U	W	E	K	I	L	V	W	M	P
I	V	E	B	M	N	F	M	O	A	U	W
J	S	R	W	O	D	M	K	R	L	D	G
V	I	E	Z	P	X	E	E	G	L	S	R
S	A	K	K	K	O	T	U	N	E	J	O
U	F	R	G	I	E	H	Z	A	Y	D	N
A	A	B	X	R	S	W	S	M	E	Y	L
O	O	Y	C	H	E	A	L	I	N	G	E
I	U	N	L	E	S	S	U	M	B	C	U
S	O	Y	U	K	X	P	D	K	V	D	Z
C	Y	N	L	J	E	U	A	P	Z	F	J

Solution to the July/August word search!

P	P	L	B	P	E	M	J	I	B	C	G
A	M	U	Y	T	T	W	R	W	O	N	L
R	A	M	V	M	O	R	C	A	I	L	N
T	C	B	M	Q	Z	X	S	N	V	Y	E
N	W	A	F	E	S	T	I	V	A	L	F
E	K	K	A	S	A	A	O	C	N	I	O
R	F	Y	S	L	R	R	J	E	I	C	Q
C	Z	G	M	T	Q	B	W	H	D	T	K
L	G	N	I	H	S	I	F	Y	K	O	Y
L	Q	G	J	P	U	R	W	F	Z	E	R
K	T	D	P	M	O	S	B	W	G	P	C
D	R	M	W	R	V	G	C	M	G	T	S